

SEQUENCE LISTING



<110> Pasternack, Gary R.
Kocheavar, Gerald J.
Brody, Jonathan R.
Kodkole, Shrihari S.
The Johns Hopkins University

<120> GENE FAMILY WITH TRANSFORMATION MODULATING ACTIVITY

<130> 062482.0168

<140> PCT/US98/26433

<141> 1998-12-11

<150> 60/069,677

<151> 1997-12-12

<160> 51

<170> PatentIn Ver. 2.0 - beta

<210> 1

<211> 5785

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (4453)..(5154)

<400> 1

aagctttcct gatctctaaa tcaaggtcag ctccctaagc tcttggtccc cgtactgaaa 60
ctttttctta tgtaactctc ataaacacat agcataatgt ttgcatgtt tttcttcct 120
atcagttgca agttccagca gagctgatat attttcattt cattcgctac tatagcccta 180
gagcctgaca tagtttctgg ctgtgaatgc tcaataaata ttgtttaat tgagtagaaa 240
cataaagtat ctatttcatt gaaggaaaga ataattagct acatttttct ttttcttgcc 300
ttaatatattg aggaatttgc ttatatgtca taataaaaaa gttaaagcct tatacattat 360
actaaggaat ttggacatta aattcaagct agcctttcta taaacaaaat actgaatttc 420
tgtccctaaa ttgttcctt cctattctt cccattgag atgacaccaa atccctctag 480
ctgctcaaac caagtaccg tatgttattc ttaattatct ctttaccttg cttctcatat 540

gcaatttggtt aacaagtcac cttcagtcgt tatccattat tctccctttc cagaccacca 600
acatgtcttg actatactgc tacaatagcc tcccaactct tgtcctactt aaaattcatt 660
gtaaaaatc agtcttggcc gggcacgggtg gctcacacct ataatcccag cactttggga 720
gtcccaggcg ggcgggtcac gaggtcaaga gatggagacc atcatggcca acatggtgaa 780
accctgtctc tactataaat acaaaaaaat tatctgggtg tgggtggcaca tgcctgtaat 840
cccaactact agggaggctg aggcaggaga atcgcttgaa cctgggaggc ggaggttgca 900
gtgagccgag atcgcaaccat tgcaactccag cctggcaaca gagcgagact ccatcccaaa 960
acaaaacaaa acaaaaccat gtaaaacatg tctgtaaaac atgtcagatt tcgtgttcag 1020
aagtcttaca tgtcttttca ttatgctaag ataaaacca aatgcatttt cttggtttct 1080
aaagccaaga aaataagagt tgctttcagc aaccttgttt cttccgccat gcttttccct 1140
agctcactct ttttaggcaa gtcgacctga tttctttct gttagtctgt ttctgcctcg 1200
tggctctggct ttctttctgt tagtctgttt ccacctcggtg gtcttggtcc tggctcttca 1260
ttctgcctgg aatgctctcc actccagatc cttactagat cttagctcag tcatcacct 1320
cgcaggaaga tcttccaacc attcacctgc ataacctat ggctgctccc tagagaacat 1380
cattctgttt tcttcacttc ctagcactta ctgctttctg aaattatcta ctttgattgt 1440
ttatttcttt ctttactctt actaggatac ctgggtcatt aaaggaggga tatttctctc 1500
ttatttactg ttataaactt aatgcttagg ctgtagaagt tatacaatat ttgaagaata 1560
aatcggtaaa tgtataacat ttttgaagaa agataattgt gggatccatt tagtttgcaa 1620
acatttgatc tgtgtgttag acagaaggcc atggtaaagg acaagacat attttatagg 1680
actgtaccct gaaaaataaa taaacttgaa ccagttatac aagacttatg tgcaggaaac 1740
aggtaccagt tatatttaga aatggtaa atcaccttctaa gcataactca gagcacaata 1800
tattagagg tagagagaga agtgctctt agatattggt aatcatatta ggaactgacgc 1860
catccttgat tttcttctg ggaacagct caaatgact atttaagtgt tacaatgata 1920
tcttgcactc tgccagtaaa taatataata gacactagga atccaaattg taagatgaac 1980
aagtctttat agaggagag ccaaatacac aataaataac acaagggtgt aatgcagta 2040

atacaaacat acataccatg cataggagtg cagagaaggt gtgcttctcc gaatgcagtc 2100
 acccagaaaag tccttctgta gaaagggata tcttaaattg tgcttaaagg aaaagtaacc 2160
 aaaggcaact aaagattgca aggaggtccc aggaaaaagc aaaagaacca aaggtagata 2220
 ggcacaaaag tagcctgcct tcctgggaac ttccaatagt ttgctggagc acacagttag 2280
 aagtactgtg ccatgggagc aaagactgaa gacatatgca ggttcaaggg cacagagccc 2340
 catatatgtc atgataagat attgggaagc cactggggag ctactgaaac ttttaagcagg 2400
 gaaataaaat tgtcatatct acaccttaga aatttgattt ttttctcttc ttttatcttc 2460
 ttttctcttc ttttctctct ctctctctct ctctctctct gtgtgtgtgt gtgtgtgtgt 2520
 gtgtgtgtgt gacagagtcg tgctctgtca cccaggctgg agtgtagtgg agtgatctcc 2580
 gcttactgca gtctctgcct ctgaagcgat tccttgcctc agcctcccga gtagctggga 2640
 ttacaggcgg gctctacaac agctggctaa cttttgtatt ttttggtaac aaccaggttt 2700
 taccatgttg gccaggctgg tcttgaactc ctgacctcag gtgatctgcc tgccttggct 2760
 ttccaaagtg ctgggattac aggcgtgagc caccctgcct ggtgtagaag tttgattttg 2820
 atgtcagtgt ggtagatgaa tttgtgggaa gcaaaacaag atagagttca atgacagtga 2880
 aaagtttatt gtataagcta tataaaagaa aatgttgag gtttgaaatc cattagtggc 2940
 agtaagggtg tacagaacga aactatttga gaagtacaca aggcaagtct tactttcaag 3000
 gcagtttatg taagctcatt caattgtctc agtgttcttg ctatgtgtgg gttataggat 3060
 ttggaacata tgatcaatct gagcacacat cagtaaactg aataggatta ttaaaatcca 3120
 caagcatttt actagtggaa tctgtgatat tttctagcta ctcttgcttg ttttatttga 3180
 atcttttgct catatcctat agtaaagatt tcaggaaata tttttttatt tgcctagaat 3240
 tttagccttt tagttttttg aatctattgc tcatattctt atagtaagag tttcagggaa 3300
 tgtatttcta tttgtctgga attttagcct ttcaggtttt tgagcccctc ttttgcttat 3360
 gggacatagt atgagacaag atgaaatgat acttctattc ccaattcact gatgggggaa 3420
 atgaagcaaa aaatgttatt cactcaaggc ttctgccatg tttctgggtg gaattacggc 3480
 tcagacacaa atttcctaatt gcctgtgctg ctaacttctc aatagaacac tatattaatt 3540

And
 46
 1

tatcttcttc ctgagtgttt ttccacaaat cccatagcct gtgaaaagat tgttttaggg 3600
 aaatattatt tttaatatag catattttgt caatgtggga cataggacta gtacctgctg 3660
 aaaaccatct catgatcctt gtgtaagaac taattcacac tagaaatact attttccttg 3720
 ctcatataaa acataaatgt ctcagaaagt aaaaaattat tcctctctaa ataaacatac 3780
 atgccactca aattttattc ctctaccact tgccgtatct aaacctagtt agatactttg 3840
 gttttaggta taatctgaca gaacagatac aaccaagatc acattgtgag tcagaagtgg 3900
 aaaattcata attcatgatg ataccaataa aagatagatt tagcttttta caggatgttt 3960
 ttggcatttt attctttcat ttgaggggag atctcaccaa aatatgtctt tcatgggttca 4020
 ttgtgttatt taatttctgt gatgcatatt ctcaggttac tttaaacctt gtctatagat 4080
 tcaaagatat cccgtgtcag gtctctaaaa gtaaaaagaa aaatgggtac ttgtgaaggc 4140
 tgattcacag taagtagtgt agaggggagt gccttgtgta ttcacaaatt atcaacgtga 4200
 gcatcagata agattttctt tagtcacaca cacctacctt cttactagga agatccatat 4260
 acttgaataa ttgttctgct tgaccaggt tacttatcag tccctttatt ataattttg 4320
 taaatattgg ggctcgagaa ccgagcggag ctggttgagt cttcaaagtc ctaaaacgtg 4380
 cggccgtggg ttcgaggttt attgattgaa ttgggtggc acgagagcct ctgcagacag 4440
 agagcgcgag ag atg gag atg ggc aga cgg att cat tca gag ctg cgg aac 4491
 Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn
 1 5 10
 agg gcg ccc tct gat gtg aaa gaa ctt gcc ctg gac aac agt cgg tcg 4539
 Arg Ala Pro Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser
 15 20 25
 aat gaa ggc aaa ctc gaa gcc ctc aca gat gaa ttt gaa gaa ctg gaa 4587
 Asn Glu Gly Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu
 30 35 40 45
 ttc tta agt aaa atc aac gga ggc ctc acc tca atc tca gac tta cca 4635
 Phe Leu Ser Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro
 50 55 60
 aag tta aag ttg aga aag ctt gaa cta aga gtc tca ggg ggc ctg gaa 4683
 Lys Leu Lys Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu
 65 70 75

gta ttg gca gaa aag tgt cca aac ctc acg cat cta tat tta agt ggc 4731
Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly
80 85 90

aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa cag tta gaa 4779
Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu
95 100 105

aac ctc aag agc tta gac ctt ttc aat tgc gag gta acc aac ctg aac 4827
Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn
110 115 120 125

gac tac gga gaa aac gtg ttc aag ctt ctc ctg caa ctc aca tat ctc 4875
Asp Tyr Gly Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu
130 135 140

gac agc tgt tac tgg gac cac aag gag gcc cct tac tca gat att gag 4923
Asp Ser Cys Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu
145 150 155

gac cac gtg gag ggc ctg gat gac gag gag gag ggt gag cat gag gag 4971
Asp His Val Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu
160 165 170

gag tat gat gaa gat gct cag gta gtg gaa gat gag gag ggc gag gag 5019
Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu
175 180 185

gag gag gag gaa ggt gaa gag gag gac gtg agt gga ggg gac gag gag 5067
Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu
190 195 200 205

gat gaa gaa ggt tat aac gat gga gag gta gat ggc gag gaa gat gaa 5115
Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu
210 215 220

gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa tgagaacctg 5164
Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
225 230

aagatgaggg agaagatgat gactaagtag aataacctat tttgaaaaat tcctattgtg 5224

atttgactgt ttttaccat atccctccc cctccaatc ctgccccctg aaacttactt 5284

ttttctgatt gtaacattgc tgtgggaatg agacgggaaa agtgtactgg gggttgtgga 5344

gggagggagg gcaggaggcg gtggactaaa atactatttt tactgccaaa taaaataata 5404

tttgtaaata ttaactggga tactagcttt gtagaatgat tactattaat tattctctct 5464

Ant
Ab
21

ctcttttttat ttttttacac attctattct ttttaagtata gtccttttag tccaaggaaa 5524
 aggcaactaca atccacttat taatgcttgc tactgtgttc aagtaaaata agctccagga 5584
 ttttaacaaaa agaggaaaga aaatattttac aatgaaaatg ttgctaaaaa tttaaaacaa 5644
 attacagtaa atgtattggt aaagcaaatt ctatttttaa aatttattaa taaggaaata 5704
 atttgctaaa gaaaattttt ggaaaaataa taatgcactt tatacttgat tttatttatt 5764
 aaaacaatga tttataagct t 5785

<210> 2
 <211> 234
 <212> PRT
 <213> Homo sapiens

<400> 2
 Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala Pro
 1 5 10 15
 Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30
 Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu Lys
 50 55 60
 Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu Ala
 65 70 75 80
 Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
 85 90 95
 Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
 100 105 110
 Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly
 115 120 125
 Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
 130 135 140
 Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
 145 150 155 160
 Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp

165

170

175

Glu Asp Ala Glu Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu Glu
180 185 190

Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu Glu
195 200 205

Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu Leu
210 215 220

Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
225 230

<210> 3

<211> 889

<212> DNA

<213> Homo sapiens

<400> 3

gggttcgagg tttattgatt gaattcggct ggcacgagag cctctgcaga cagagagcgc 60

gagagatgga gatgggcaga cggattcatt cagagctgcg gaacagggcg ccctctgatg 120

tgaaagaact tgccctggac aacagtcggt cgaatgaagg caaactcgaa gccctcacag 180

atgaatttga agaactggaa ttcttaagta aaatcaacgg aggcctcacc tcaatctcag 240

acttaccaaa gttaaagttg agaaagcttg aactaagagt ctgagggggc ctggaagtat 300

tggcagaaaa gtgtccaaac ctacgcac tcacacgcac tatatttaag tggcaacaaa attaaagacc 360

tcagcacaat agagccactg aaacagttag aaaacctcaa gagcttagac cttttcaatt 420

gcgaggtaac caacctgaac gactacggag aaaacgtggt caagcttctc ctgcaactca 480

catatctcga cagctgttac tgggaccaca aggaggcccc ttactcagat attgaggacc 540

acgtggaggg cctggatgac gaggaggagg gtgagcatga ggaggagtat gatgaagatg 600

ctcaggtagt ggaagatgag gagggcgagg aggaggagga ggaaggtgaa gaggaggacg 660

tgagtggagg ggacgaggag gatgaagaag gttataacga tggagaggta gatggcgagg 720

aagatgaaga agagcttggt gaagaagaaa ggggtcagaa gcgaaaatga gaacctgaag 780

atgagggaga agatgatgac taagtagaat aacctatttt gaaaaattcc tattgtgatt 840

tgactgtttt tacccatatc ccctcccccc tccaatcctg cccctgaa 889

<210> 4
<211> 907
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (66)..(455)

<400> 4
gggttcgggg ttattgatt gaattcggct ggcgcgggag cctctgcaga gagagagcgc 60
gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac ggg acg 110
Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Gly Thr
1 5 10 15
ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu
20 25 30
ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
35 40 45
agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60
aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 302
Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
65 70 75
cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 350
Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
80 85 90 95
agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 398
Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
100 105 110
tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 446
Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
115 120 125
ctg aac aac tactgagaga agatgttcaa gctcctcctg caactcacat 495
Leu Asn Asn
130

atctcaacgg ctgtgacccg gatgacaagg aggccccctaa ctcggatggt gagggctttg 555
 tggagtgcct ggatgacaag gaggaggatg aggatgagga ggagtatgat gaagatgctc 615
 aggtaatgga agatgaggag gacgaggatg aggaggagga acgtgaagag gaggacgtga 675
 gtggagacga ggaggagaag gatgaagggtt ataacaatgg agaggtagat gatgaggaag 735
 atgaagaaga gcttggtgaa gaagaaaggg gtcagaagcg aaaataagaa actgaagatg 795
 agggagaaga cgatgcctaa gtggaataat ctattttgaa aaattccttt tgtgatttta 855
 ctgttttttag ccgtaccccc tctccccccc cactctaata ctgccccctg aa 907

<210> 5
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Gly Thr Pro
 1 5 10 15
 Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30
 Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60
 Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
 65 70 75 80
 Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
 85 90 95
 Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110
 Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
 115 120 125
 Asn Asn
 130

<210> 6

<211> 907
<212> DNA
<213> Homo sapiens

mb
AB
1

~~<400> 6
gggttcgggg tttattgatt gaattcggct ggcacgagag cctctgcaga cagagagcgc 60
gagagacgga gatgggcaga cggattcatc tagagctgcg gaacagggcg ccctctgatg 120
tgaaagaact tgccttggaac aacagtcggt cgaatgaagg caaactcgaa gccctcacag 180
atgaatttga agaactggaa ttcttaagta aaatcaacgg aggcctcacc tcaatctcag 240
acttaccaaa gttaaacaag ttgagaaagc ttgaactaag cagtaacaga gtctcagggg 300
gectggaagt attggcagaa aagtgtccaa acctcacgca tctatattta agtggcaaca 360
aaattaaaga cctcagcaca atagagccac tgaaacagtt agaaaacctc aagagcttag 420
accttttcaa ttgagaggta accaacctga acgactacgg agaaaacgtg ttcaagcttc 480
tcttgcaact cacatatctc gacagctgtt actgggacca caaggaggcc ccttactcag 540
atattgaggc ccacgtggag ggcctggatg acgaggagga gggtagcat gaggaggagt 600
atgatgaaga tgctcaggta gtggaagatg aggagggcga ggaggaggag gaggaaggtg 660
aagaggagga cgtgagtgga ggggacgagg aggatgaaga aggttataac gatggagagg 720
tagatggcga ggaagatgaa gaagagcttg gtgaagaaga aaggggtcag aagcgaaaat 780
gagaacctga agatgaggga gaagatgatg actaagtaga ataacctatt ttgaaaaatt 840
cctattgtga ttgactgtt tttacccata tccctctccc cccccctc taatcctgcc 900
ccctgaa 907~~

<210> 7
<211> 905
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (64)..(453)

<400> 7
gggttcgggg tttattggtt gaattcggct ggctcaggag cctctgcaga gaaagcgtga 60

gag atg gag atg ggc aaa tgg att cat tta gag ctg cgg aac agg acg 108
 Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr
 1 5 10 15

ccc tcc gat gtg aaa gaa ctt ttc ctg gac aac agt cag tca aat gaa 156
 Pro Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu
 20 25 30

ggc aaa ttg gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa tta tta 204
 Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu
 35 40 45

aat aca atc aac ata ggc ctc acc tca att gca aac ttg cca aag tta 252
 Asn Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
 50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 300
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
 65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 348
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 396
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 444
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
 115 120 125

ctg aac aac tactgagaaa agatgttcaa gtcctctctg caactcacat 493
 Leu Asn Asn
 130

atctcaacgg ctgtgacccg gatgacaagg aggccccctaa ctgggatggg gagggctatg 553
 tggagtgcct ggatgacaag gaggaggatg aggatgagga ggagtatgat gaagatgctc 613
 aggtaaatgga agatgaggag gacgaggatg aggaggagga acgtgaagag gaggacgtga 673
 gtggagacga ggaggagaag gatgaagggtt ataacaatgg agaggtagat gatgaggaag 733
 atgaagaaga gcttgggtgaa gaagaaaggg gtcagaagcg aaaataagaa actgaagatg 793
 agggagaaga cgatgcctaa gtggaataat ctattttgaa aaattccttt tgtgatttta 853
 ctgttttttag ccgtatcccc tctccccccc cactctaate ctgccccctg aa 905

<210> 8
<211> 130
<212> PRT
<213> Homo sapiens

<400> 8
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
1 5 10 15
Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
20 25 30
Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
35 40 45
Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
50 55 60
Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
65 70 75 80
Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
85 90 95
Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
100 105 110
Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
115 120 125
Asn Asn
130

2nd
Ab
7

<210> 9
<211> 907
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (66)..(812)

<400> 9
gggttcgggg tttattgatt gaattccgcc ggcgcgggag cctctgcaga gagagagcgc 60
gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac agg acg 110
Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu
20 25 30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac ttg cca aag tta 254
Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 302
Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 350
Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa aag 398
Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
100 105 110

tta gaa aac ctc aag agc tta gac ctt tcc aat tgc gag gta acc aac 446
Leu Glu Asn Leu Lys Ser Leu Asp Leu Ser Asn Cys Glu Val Thr Asn
115 120 125

ctg aac gac tac cga gaa aat gtg ttc aag ctc ctc ccg caa ctc aca 494
Leu Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr
130 135 140

tat ctc gac ggc tat gac cgg gac gac aag gag gcc cct gac tcg gat 542
Tyr Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp
145 150 155

gct gag ggc tac gtg gag ggc ctg gat gat gag gag gag gat gag gat 590
Ala Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp
160 165 170 175

gag gag gag tat gat gaa gat gct cag gta gta gaa gat gag gag gac 638
Glu Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp
180 185 190

gag gat gag gag gag gaa ggt gaa gag gag gac gtg agt gga gag gag 686
Glu Asp Glu Glu Glu Glu Gly Glu Glu Asp Val Ser Gly Glu Glu
195 200 205

gag gag gat gaa gaa ggt tat aac gat gga gag gta gat gac gag gaa 734

Glu Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu
 210 215 220

gat gaa gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa cga 782
 Asp Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg
 225 230 235

gaa cct gaa gat gag gga gaa gat gat gac taagtgggaat aacctatttt 832
 Glu Pro Glu Asp Glu Gly Glu Asp Asp Asp
 240 245

gaaaaattcc tattgtgatt tgactgtttt tacccatata ccctctcccc cccccctcta 892
 atcctgcccc ctgaa 907

<210> 10
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 10
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45

Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60

Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
 65 70 75 80

Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
 85 90 95

Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110

Glu Asn Leu Lys Ser Leu Asp Leu Ser Asn Cys Glu Val Thr Asn Leu
 115 120 125

Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr Tyr
 130 135 140

Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp Ala

145

150

155

160

Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp Glu
165 170 175

Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp Glu
180 185 190

Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu Glu
195 200 205

Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp
210 215 220

Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg Glu
225 230 235 240

Pro Glu Asp Glu Gly Glu Asp Asp Asp
245

<210> 11

<211> 905

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (64)..(810)

<400> 11

gggttcggggg tttattgggtt gaattccgct ggctcaggag cctctgcaga gaaagcgtga 60

gag atg gag atg ggc aaa tgg att cat tta gag ctg cgg aac agg acg 108
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tcc gat gtg aaa gaa ctt ttc ctg gac aac agt cag tca aat gaa 156
Pro Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu
20 25 30

ggc aaa ttg gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa tta tta 204
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu
35 40 45

aat aca atc aac ata ggc ctc acc tca att gca aac ttg cca aag tta 252
Asn Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 300

Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
 65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 348
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 396
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 444
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
 115 120 125

ctg aac aac tac cga gaa aat gtg ttc aag ctc ctc ccg caa ctc aca 492
 Leu Asn Asn Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr
 130 135 140

tat ctc gac ggc tat gac cgg gac gac aag gag gcc cct gac tcg gat 540
 Tyr Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp
 145 150 155

gct gag ggc tac gtg gag ggc ctg gat gat gag gag gag gat gag gat 588
 Ala Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp
 160 165 170 175

and
 gag gag gag tat gat gaa gat gct cag gta gtg gaa gac gag gag gac 636
 Glu Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp
 180 185 190

AB
1
 gag gat gag gag gag gaa ggt gaa gag gag gac gtg agt gga gag gag 684
 Glu Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu
 195 200 205

gag gag gat gaa gaa ggt tat aac gat gga gag gta gat gac gag gaa 732
 Glu Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu
 210 215 220

gat gaa gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa cga 780
 Asp Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg
 225 230 235

gaa cct gaa gat gag gga gaa gat gat gac taagtgggaat aacctatatt 830
 Glu Pro Glu Asp Glu Gly Glu Asp Asp Asp
 240 245

gaaaaattcc tattgtgatt tgactgtttt tacccatata cctctcccc cccccctcta 890

atcctgcccc ctgaa 905

<210> 12
<211> 249
<212> PRT
<213> Homo sapiens

<400> 12
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
1 5 10 15
Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
20 25 30
Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
35 40 45
Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
50 55 60
Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
65 70 75 80
Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
85 90 95
Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
100 105 110
Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
115 120 125
Asn Asn Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr Tyr
130 135 140
Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp Ala
145 150 155 160
Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp Glu
165 170 175
Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp Glu
180 185 190
Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu Glu
195 200 205
Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp
210 215 220

Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg Glu
 225 230 235 240

Pro Glu Asp Glu Gly Glu Asp Asp Asp
 245

<210> 13
 <211> 907
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (66)..(812)

<400> 13
 ggggttcggggg tttattgatt gaattccgcc ggcgcgggag cctctgcaga gagagagcgc 60

gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac agg acg 110
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr
 1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
 Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu
 20 25 30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
 Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
 35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
 Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
 50 55 60

aac aaa ctt aag aag ctt gaa cta agc gat aac aga gtc tca ggg ggc 302
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly
 65 70 75

ctg gaa gta ttg gca gaa aag tgt ccg aac ctc acg cat cta aat tta 350
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa aag 398
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc aag agc tta gac ctt ttc aat tgc gag gta acc aac 446
 Leu Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn
 115 120 125

ctg aac gac tac cga gaa aat gtg ttc aag ctc ctc ccg caa ctc aca 494
 Leu Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr
 130 135 140

tat ctc gac ggc tat gac cgg gac gac aag gag gcc cct gac tcg gat 542
 Tyr Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp
 145 150 155

gct gag ggc tac gtg gag ggc ctg gat gat gag gag gag gat gag gat 590
 Ala Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp
 160 165 170 175

gag gag gag tat gat gaa gat gct cag gta gtg gaa gac gag gag gac 638
 Glu Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp
 180 185 190

gag gat gag gag gag gaa ggt gaa gag gag gac gtg agt gga gag gag 686
 Glu Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu
 195 200 205

gag gag gat gaa gaa ggt tat aac gat gga gag gta gat gac gag gaa 734
 Glu Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu
 210 215 220

gat gaa gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa cga 782
 Asp Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg
 225 230 235

gaa cct gaa gat gag gga gaa gat gat gac taagtgaat aacctatattt 832
 Glu Pro Glu Asp Glu Gly Glu Asp Asp Asp
 240 245

gaaaaattcc tattgtgatt tgactgtttt tacccatata ccctctcccc cccccctcta 892

atcctgcccc ctgaa 907

<210> 14
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15
 Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60
 Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly Leu
 65 70 75 80
 Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu Ser
 85 90 95
 Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110
 Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu
 115 120 125
 Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr Tyr
 130 135 140
 Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp Ala
 145 150 155 160
 Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp Glu
 165 170 175
 Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp Glu
 180 185 190
 Asp Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu Glu
 195 200 205
 Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp
 210 215 220
 Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg Glu
 225 230 235 240
 Pro Glu Asp Glu Gly Glu Asp Asp Asp
 245

<210> 15
 <211> 895
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS

<222> (66)..(767)

<400> 15

gggttcggggg tttattgatt gaattcggct ggcacgagag cctctgcaga cagagagcgc 60

gagag atg gag atg ggc aga cgg att cat tca gag ctg cgg aac agg gcg 110
Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala
1 5 10 15

ccc tct gat gtg aaa gaa ctt gcc ctg gac aac agt cgg tcg aat gaa 158
Pro Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser Asn Glu
20 25 30

ggc aaa ctc gaa gcc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
Gly Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
35 40 45

agt aaa atc aac gga ggc ctc acc tca atc tca gac tta cca aag tta 254
Ser Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu
50 55 60

aag ttg aga aag ctt gaa cta aga gtc tca ggg ggc ctg gaa gta ttg 302
Lys Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu
65 70 75

gca gaa aag tgt cca aac ctc acg cat cta tat tta agt ggc aac aaa 350
Ala Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys
80 85 90 95

One
Ab
att aaa gac ctc agc aca ata gag cca ctg aaa cag tta gaa aac ctc 398
Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu
100 105 110

aag agc tta gac ctt ttc aat tgc gag gta acc aac ctg aac gac tac 446
Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr
115 120 125

gga gaa aac gtg ttc aag ctt ctc ctg caa ctc aca tat ctc gac agc 494
Gly Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser
130 135 140

tgt tac tgg gac cac aag gag gcc cct tac tca gat att gag gac cac 542
Cys Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His
145 150 155

gtg gag ggc ctg gat gac gag gag gag ggt gag cat gag gag gag tat 590
Val Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr
160 165 170 175

gat gaa gat gct cag gta gtg gaa gat gag gag ggc gag gag gag gag 638

Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu
 180 185 190

gag gaa ggt gaa gag gag gac gtg agt gga ggg gac ggg gag gat gaa 686
 Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Gly Glu Asp Glu
 195 200 205

gaa ggt tat aac gat gga gag gta gat ggc gag gaa gat gaa gaa gag 734
 Glu Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu
 210 215 220

ctt ggt gaa gaa gaa agg ggt cag aag cga aaa tgagaacctg aagatgaggg 787
 Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
 225 230

agaagatgat gactaagtag aataacctat ttgaaaaat tcctattgtg atttgactgt 847
 ttttaccat atcccatctt cccccccct ctaatcctgc cccctgaa 895

<210> 16
 <211> 234
 <212> PRT
 <213> Homo sapiens

<400> 16

Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45

Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu Lys
 50 55 60

Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu Ala
 65 70 75 80

Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
 85 90 95

Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
 100 105 110

Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly
 115 120 125

Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
130 135 140

Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
145 150 155 160

Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp
165 170 175

Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu
180 185 190

Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Gly Glu Asp Glu Glu
195 200 205

Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu Leu
210 215 220

Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
225 230

<210> 17

<211> 905

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (64)..(453)

<400> 17

gggttcgggg tttattgggtt gaattccgct ggctcgagag cctctggaga gaaagcgtga 60

gag atg gag atg ggc aaa tgg att cat tta gag ctg cgg aac agg acg 108
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tcc gat gtg aaa gaa ctt ttc ctg gac aac agt cag tca aat gaa 156
Pro Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu
20 25 30

ggc aaa ttg gaa ggc ctc aca gat gaa ttt gag gaa ctg gaa tta tta 204
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu
35 40 45

aat aca atc aac ata ggc ctc acc tca att gca aac ttg cca aag tta 252
Asn Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 300
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
 65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 348
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
 80 85 90 95

agt gcc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 396
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctt gag agc tta gac ctt ttc act tgc gag gta acc aac 444
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
 115 120 125

ctg aac aac tactgagaaa agatgttcaa gctcctcctg caactcacat 493
 Leu Asn Asn
 130

atctcaacgg ctgtgacccg gatgacaagg aggcccttaa ctcggatggt gagggctacg 553

tggagggcct ggacgatgag gaggaggatg aggatgagga ggagtatgat gaagatgctc 613

aggtagtgga agacgaggag gacgaggatg aggaggagga aggtgaagag gaggacgtga 673

gtggagagga ggaggaggat gaagaagggtt ataacgatgg agaggtagat gacgaggaag 733

atgaagaaga gcttggtgaa gaagaaaggg gtcagaagcg aaaacgagaa cctgaagatg 793

agggagaaga tgatgactaa gtggaataac ctattttgaa aaattcctat tgtgatttga 853

ctgttttttag ccgtatcccc tctccccccc cactctaate ctgccccctg aa 905

<210> 18

<211> 130

<212> PRT

<213> Homo sapiens

<400> 18

Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
 35 40 45

Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
50 55 60

Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
65 70 75 80

Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
85 90 95

Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
100 105 110

Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
115 120 125

Asn Asn
130

<210> 19
<211> 905
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (64)..(453)

*One
H6
7*
<400> 19
gggttcgggg tttattgggt gaattccgct ggctcaggag cctctgcaga gaaagcgtga 60

gag atg gag atg ggc aaa tgg att cat tta gag ctg cgg aac agg acg 108
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tcc gat gtg aaa gaa ctt ttc ctg gac aac agt cag tca aat gaa 156
Pro Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu
20 25 30

ggc aaa ttg gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa tta tta 204
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu
35 40 45

aat aca atc aac ata ggc ctc acc tca att gca aac ttg cca aag tta 252
Asn Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 300
Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 348
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 396
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 444
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
 115 120 125

ctg aac aac tactgagaaa agatgttcaa gctcctcctg caactcacat 493
 Leu Asn Asn
 130

atctcaacgg ctgtgaccgg gatgacaagg aggccccctaa ctcggtatggt gagggctttg 553

tggagtgcct ggatgacaag gaggaggatg aggatgagga ggagtatgat gaagatgctc 613

aggtaatgga agatgaggag gacgaggatg aggaggagga acgtgaagag gaggacgtga 673

gtggagacga ggaggagaag gatgaagggtt ataacaatgg agaggtatgat gatgaggaag 733

atgaagaaga gcttggtgaa gaagaaaggg gtcagaagcg aaaataagaa actgaagatg 793

agggagaaga cgatgcctaa gtggaataat ctattttgaa aaattccttt tgtgatttta 853

ctgttttttag ccgtatcccc tctccccccc cactctaato ctgccccctg aa 905

<210> 20

<211> 130

<212> PRT

<213> Homo sapiens

<400> 20

Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
 35 40 45

Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60

Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
65 70 75 80

Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
85 90 95

Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
100 105 110

Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
115 120 125

Asn Asn
130

<210> 21
<211> 895
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (66)..(767)

<400> 21
gggttcggggg tttattgatt gaattcggct ggcacgagag cctctgcaga cagagagcgc 60

gagag atg gag atg ggc aga cgg att cat tca gag ctg cgg aac agg gcg 110
Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala
1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu
20 25 30

ggc aaa ctc gaa gcc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
Gly Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
35 40 45

agt aaa atc aac gga ggc ctc acc tca atc tca gac tta cca aag tta 254
Ser Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu
50 55 60

aag ttg aga aag ctt gaa cta aaa gtc tca ggg ggc ctg gaa gta ttg 302
Lys Leu Arg Lys Leu Glu Leu Lys Val Ser Gly Gly Leu Glu Val Leu
65 70 75

gca gaa aag tgt cca aac ctc acg cat cta tat tta agt ggc aac aaa 350
Ala Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys

80

85

90

95

att aaa gac ctc agc aca ata gag cca ctg aaa cag tta gaa aac ctc 398
 Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu
 100 105 110

aag agc tta gac ctt ttc aat tgc gag gta acc aac ctg aac gac tac 446
 Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr
 115 120 125

gga gaa aac gtg ttc aag ctt ctc ctg caa ctc aca tat ctc gac agc 494
 Gly Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser
 130 135 140

tgt tac tgg gac cac aag gag gcc cct tac tca gat att gag gac cac 542
 Cys Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His
 145 150 155

gtg gag ggc ctg gat gac gag gag gag ggt gag cat gag gag gag tat 590
 Val Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr
 160 165 170 175

gat gaa gat gct cag gta gtg gaa gat gag gag ggc gag gag gag gag 638
 Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu
 180 185 190

gag gaa ggt gaa gag gag gac gtg agt gga ggg gac gag gag gat gaa 686
 Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu
 195 200 205

gaa ggt tat aac gat gga gag gta gat ggc gag gaa gat gaa gaa gag 734
 Glu Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu
 210 215 220

ctt ggt gaa gaa gaa agg ggt cag aag cga aaa agagaacctg aagatgaggg 787
 Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
 225 230

agaagatgat gactaagtag aataacctat ttgaaaaat tcctattgtg atttgactgt 847

ttttaccat atccccctc cccccccct ctaatcctgc ccctgaa 895

<210> 22

<211> 234

<212> PRT

<213> Homo sapiens

<400> 22

Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala Pro

1

5

10

15

Ser Asp Val Lys* Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30
 Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu Lys
 50 55 60
 Leu Arg Lys Leu Glu Leu Lys Val Ser Gly Gly Leu Glu Val Leu Ala
 65 70 75 80
 Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
 85 90 95
 Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
 100 105 110
 Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly
 115 120 125
 Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
 130 135 140
 Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
 145 150 155 160
 Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp
 165 170 175
 Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu
 180 185 190
 Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu Glu
 195 200 205
 Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu Leu
 210 215 220
 Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
 225 230

<210> 23

<211> 895

<212> DNA

<213> Homo sapiens

<220>
<221> CDS
<222> (66)..(767)

<400> 23

gggttcgggg tttattgatt gaattccgcc ggcgcgaggag cctctgcaga gagggagcgc 60

gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac agg acg 110
Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu
20 25 30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aag ttg aga aag ctt gaa cta aga gtc tca ggg ggc ctg gaa gta ttg 302
Lys Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu
65 70 75

gca gaa aag tgt cca aac ctc acg cac cta tat tta agt ggc aac aaa 350
Ala Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys
80 85 90 95

att aaa gac ctc agc aca ata gag cca ctg aaa cag tta gaa aac ctc 398
Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu
100 105 110

aag agc tta gac ctt ttc aat tgc gag gta acc aac ctg aac gac tac 446
Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr
115 120 125

gga gaa aac gtg ttc aag ctt ctc ctg caa ctc aca tat ctc gac agc 494
Gly Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser
130 135 140

tgt tac tgg gac cac aag gag gcc cct tac tca gat att gag gac cac 542
Cys Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His
145 150 155

gtg gag ggc ctg gat gac gag gag gag ggt gag cat gag gag gag tat 590
Val Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr
160 165 170 175

gat gaa gat gct cag gta gtg gaa gat gag gag ggc gag gag ggg gag 638
 Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Gly Glu
 180 185 190

gag gaa ggt gaa gag gag gac gtg agt gga ggg gac gag gag gat gaa 686
 Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu
 195 200 205

gaa ggt tat aac gat gga gag gta gat gac gag gaa gat gaa gaa gag 734
 Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp Glu Glu Glu
 210 215 220

ctt ggt gaa gaa gaa agg ggt cag aag cga aaa cgagaacctg aagatgaggg 787
 Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
 225 230

agaagatgat gactaagtgg aataacctat ttgaaaaat tcctattgtg atttgactgt 847
 ttttaccat atccccctctc cccccccct ctaatcctgc cccttgaa 895

<210> 24

<211> 234

<212> PRT

<213> Homo sapiens

<400> 24

Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45

Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Lys
 50 55 60

Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu Ala
 65 70 75 80

Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
 85 90 95

Lys, Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
 100 105 110

Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly

115

120

125

Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
 130 135 140

Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
 145 150 155 160

Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp
 165 170 175

Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Gly Glu Glu
 180 185 190

Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu Glu
 195 200 205

Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp Glu Glu Glu Leu
 210 215 220

Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
 225 230

<210> 25

<211> 907

<212> DNA

<213> Homo sapiens

<400> 25

gggttcgggg tttattgatt gaattccgcc ggcgcgggag cctctgcaga gagagagcgc 60

gagagatgga gatgggcaga cggattcatt tagagctgag gaacaggacg ccctctgatg 120

tgaagaact tgtcctggac aacagtcggt cgaatgaagg aaaaactcag ggcctcacag 180

atgaatttga agaactggaa ttcttaagta caatcaacgt aggcctcacc tcaatcgcaa 240

acttaccaaa gttaaacaaa cttagaagc ttgaactaag cgataacaga gtctcagggg 300

gcctggaagt attggcagaa aagtgtccga acctcagca tctaaattta agtggcaaca 360

aaattaaaga cctcagcaca atagagccac tgaaaaagtt agaaaacctc agagacttag 420

accttttcaa ttgagaggta accaacctga acgactaccg agaaaatgtg ttcaagctcc 480

tcccgcaact cacatatctc gacggctatg accgggacga caaggaggcc cctgactcgg 540

atgctgaggg ctacgtggag ggcctggatg atgaggagga ggatgaggat gaggaggagt 600

atgatgaaga tgctcaggta gtggaagacg aggaggacga ggatgaggag gaggaaggtg 660
aagaggagga cgtgagtgga gaggaggagg aggatgaaga aggttataac gatggagagg 720
tagatgacga ggaagatgaa gaagagcttg gtgaagaaga aaggggtcag aagcgaaaac 780
gagaacctga agatgaggga gaagatgatg actaagtgga ataacctatt ttgaaaaatt 840
cctattgtga ttgactgtt ttaccata tcccctctcc cccccccctc taatcctgcc 900
ccctgaa 907

<210> 26
<211> 905
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (64)..(453)

<400> 26
gggttcgggg ttattgtgtt gaattccgct ggctcaggag cctctgcaga gaaagcgtga 60

gag atg gag atg ggc aaa tgg att cat tta gag ctg cgg aac agg acg 108
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr
1 5 10 15

ccc tcc gat gtg aaa gaa ctt ttc ctg gac aac agt cag tca aat gaa 156
Pro Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu
20 25 30

ggc aaa ttg gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa tta tta 204
Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu
35 40 45

aat aca atc aac ata ggc ctc acc tca att gca aac ttg cca aag tta 252
Asn Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gcc tca gtg ggc 300
Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly
65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 348
Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu
80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 396

Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 444
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn
 115 120 125

ctg aac aac tactgagaaa agatgttcaa gctcctcctg caactcacat 493
 Leu Asn Asn
 130

atctcaacgg ctgtgacccg gatgacaagg aggccccctaa ctcgatggt gagggctttg 553
 tggagtgcct gcatgacaag gaggaggatg aggatgagga ggagtatgat gaagatgctc 613
 aggtaatgga agatgaggag gacgaggatg aggaggagga acgtgaagag gaggacgtga 673
 gtggagacga ggaggagaag gatgaagggt ataacaatgg agaggtagat gatgaggaag 733
 atgaagaaga gcttgggtgaa gaagaaaggg gtcagaagcg aaaataagaa actgaagatg 793
 agggagaaga cgatgcctaa gtggaataat ctattttgaa aaattccttt tgtgatttta 853
 ctgttttttag ccgtatcccc tctccccccc cactctaate ctgccccctg aa 905

<210> 27
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 27
 Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
 35 40 45

Thr Ile Asn Ile Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60

Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
 65 70 75 80

Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
 85 90 95

Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110

Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
 115 120 125

Asn Asn
 130

<210> 28
 <211> 907
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (66)..(812)

<400> 28
 ggggttcggggg tttattgatt gaattccgcc ggcgcgaggag cctctgcaga gagagagcgc 60

gagag atg gag atg ggc aga cgg att cat cta gag ctg cgg aac agg acg 110
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr
 1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gtc aac agt cgg tcg aat gaa 158
 Pro Ser Asp Val Lys Glu Leu Val Leu Val Asn Ser Arg Ser Asn Glu
 20 25 30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
 Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
 35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
 Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
 50 55 60

aac aaa ctt aag aag ctt gaa cta agc gat aac aga gtc tca ggg ggc 302
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly
 65 70 75

cta gaa gta ttg gca gaa aag tgt ccg aac ctc acg cat cta aat tta 350
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa aag 398
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc aag agc tta gac ctt ttc aat tgc gag gta acc aac 446
 Leu Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn
 115 120 125

ctg aac gac tac cga gaa aat gtg ttc aag ctc ctc ccg caa ctc aca 494
 Leu Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr
 130 135 140

tat ctc gac ggc tat gac cgg gac gac aag gag gcc cct gac tcg gat 542
 Tyr Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp
 145 150 155

gct gag ggc tac gtg gag ggc ctg gat gat gag gag gag gat gag gat 590
 Ala Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp
 160 165 170 175

gag gag gag tat gat gaa gat gct cag gta gtg gaa gac gag gag gac 638
 Glu Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp
 180 185 190

gag gat gag gag gag gaa ggt gaa gag gag gac gtg agt gga gag gag 686
 Glu Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu
 195 200 205

gag gag gat gaa gaa ggt tat aac gat gga gag gta gat gac gag gaa 734
 Glu Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu
 210 215 220

gat gaa gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa cga 782
 Asp Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg
 225 230 235

gaa cct gaa gat gag gga gaa gat gat gac taagtgaat aacctatattt 832
 Glu Pro Glu Asp Glu Gly Glu Asp Asp Asp
 240 245

gaaaaattcc tattgtgatt tgactgtttt tacccatata cctctcccc cccccctcta 892

atcctgcccc ctgaa 907

<210> 29
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 29
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Val Leu Val Asn Ser Arg Ser Asn Glu Gly
 20 25 30
 Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60
 Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly Leu
 65 70 75 80
 Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu Ser
 85 90 95
 Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110
 Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu
 115 120 125
 Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Pro Gln Leu Thr Tyr
 130 135 140
 Leu Asp Gly Tyr Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp Ala
 145 150 155 160
 Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp Glu
 165 170 175
 Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp Glu
 180 185 190
 Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu Glu
 195 200 205
 Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp
 210 215 220
 Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Arg Glu
 225 230 235 240
 Pro Glu Asp Glu Gly Glu Asp Asp Asp
 245

<210> 30
 <211> 907
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (66)..(455)

<400> 30

gggttcgggg tttattgatt gaattccgcc ggcgcgaggag cctctgcaga gagagagcgc 60

gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac agg acg 110
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr

1 5 10 15

ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
 Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu

20 25 30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
 Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu

35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
 Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu

50 55 60

aac aaa ctt aag aag ctt gaa cta agc gat aac aga gtc tca ggg ggc 302
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly

65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc ata cat cta aat tta 350
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu

80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag ccc ctg aaa aag 398
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys

100 105 110

tta gaa aac ctc gag agc tta gac ctt ttc act tgc gag gta acc aac 446
 Leu Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn

115 120 125

ctg aac aac tactgagaaa agatgttcaa gctcctcctg caactcacat 495
 Leu Asn Asn

130

atctcaacgg ctgtgacccg gatgacaagg aggccccctaa ctcgatgggt gagggctttg 555

tggagtgcct ggatgacaag gaggaggatg aggatgagga ggagtatgat gaagatgctc 615

aggtaatgga agatgaggag gacgaggatg aggaggagga acgtgaagag gaggacgtga 675

gtggagacga ggaggagaag gatgaagggtt ataacaatgg agaggtagat gatgaggaag 735
 atgaagaaga gcttggtgaa gaagaaaggg gtcagaagcg aaaataagaa actgaagatg 795
 agggagaaga cgatgcctaa gtggaataat ctattttgaa aaattcctat tgtgatttga 855
 ctgtttttac ccatatcccc tctccccccc cctctaatc ctgccccctg aa 907

<210> 31
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 31
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15
 Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30
 Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45
 Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60
 Lys Leu Lys Lys Leu Glu Leu Ser Asp Asn Arg Val Ser Gly Gly Leu
 65 70 75 80
 Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
 85 90 95
 Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110
 Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
 115 120 125
 Asn Asn
 130

<210> 32
 <211> 908
 <212> DNA
 <213> Homo sapiens

<400> 32
 gggttcggggg tttattgatt gaattccgcc ggcgcgggag cctctgcaga gagagagcgc 60

ggagagatgg agatgggcag acggattcat ttagagctgc ggaacaggac gccctctgat 120
 gtgaaagaac ttgtcctgga caacagtcgg tcgaatgaag gcaaactcga aggcctcaca 180
 gatgaatttg aagaactgga attcttaagt acaatcaacg taggcctcac ctcaatcgca 240
 aacttaccaa agttaaacia acttaagaag cttgaactaa gcgataacag agtctcaggg 300
 ggcttggaag tattggcaga aaagtgtccg aacctcacgc atctaaattt aagtggcaac 360
 aaaattaaag acctcagcac aatagagcca ctgaaaaagt tagaaaacct caagagctta 420
 gaccttttca attgagaggt aaccaacctg aacgactacc gagaaaatgt gttcaagctc 480
 ctcccgcaac tcacatatct cgacggctat gaccgggacg acaaggaggc ccctgactcg 540
 gatgctgagg gctacgtgga gggcctggat gatgaggagg aggatgagga tgaggaggag 600
 tatgatgaag atgctcaggt agtggagac gaggaggacg aggatgagga ggaggaaggt 660
 gaagaggagg acgtgagtg agaggaggag gaggatgaag aaggttataa cgatggagag 720
 gtagatgacg aggaagatga agaagagctt ggtgaagaag aaaggggtca gaagcgaaaa 780
 cgagaacctg aagatgaggg agaagatgat gactaagtgg aataacctat ttgaaaaat 840
 tctattgtg atttgactgt ttttacctat atcccccttc cccccccct ctaatcctgc 900
 cccctgaa 908

<210> 33
 <211> 906
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (66)..(812)

<400> 33
 gggttcgggg tttattgatt gaattccgct ggcgcgggag cctctgcaga gagagagcgc 60
 gagag atg gag atg ggc aga cgg att cat tta gag ctg cgg aac agg acg 110
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr
 1 5 10 15
 ccc tct gat gtg aaa gaa ctt gtc ctg gac aac agt cgg tcg aat gaa 158
 Pro Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu

20

25

30

ggc aaa ctc gaa ggc ctc aca gat gaa ttt gaa gaa ctg gaa ttc tta 206
 Gly Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu
 35 40 45

agt aca atc aac gta ggc ctc acc tca atc gca aac tta cca aag tta 254
 Ser Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu
 50 55 60

aac aaa ctt aag aag ctt gaa cta agc agt aac aga gtc tca ggg ggc 302
 Asn Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Val Ser Gly Gly
 65 70 75

cta gaa gta ttg gca gaa aag tgt cca aac ctc acg cat cta aat tta 350
 Leu Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu
 80 85 90 95

agt ggc aac aaa att aaa gac ctc agc aca ata gag cca ctg aaa aag 398
 Ser Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys
 100 105 110

tta gaa aac ctc aag agc tta gac ctt ttc aat tgc gag gta acc aac 446
 Leu Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn
 115 120 125

ctg aac gac tac cga gaa aat gtg ttc aag ctc ctc ctg caa ctc aca 494
 Leu Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr
 130 135 140

tat ctc gac ggc tgt gac cgg gac gac aag gag gcc cct gac tcg gat 542
 Tyr Leu Asp Gly Cys Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp
 145 150 155

gct gag ggc tac gtg gag ggc ctg gat gac gag gag gag gat gag gat 590
 Ala Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp
 160 165 170 175

gag gag gag tat gat gaa gat gct cag gta gtg gaa gat gag gag gac 638
 Glu Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp
 180 185 190

gag gat gag gag gag gaa ggt gaa gag gag gac gtg agt gga gag gag 686
 Glu Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu
 195 200 205

gag gag gat gaa gaa ggt tat aac gat gga gag gta gat gac gag gaa 734
 Glu Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu
 210 215 220

gat gaa gaa gag ctt ggt gaa gaa gaa agg ggt cag aag cga aaa gag 782
 Asp Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Glu
 225 230 235

aac ctg aag atg agg gag aag atg atg act aagtgaata acctattttg 832
 Asn Leu Lys Met Arg Glu Lys Met Met Thr
 240 245

aaaaattcct attgtgattt gactgttttt acccatatcc cctctccccc cccctcttaa 892
 tcctgcccc tgaa 906

<210> 34
 <211> 249
 <212> PRT
 <213> Homo sapiens

<400> 34
 Met Glu Met Gly Arg Arg Ile His Leu Glu Leu Arg Asn Arg Thr Pro
 1 5 10 15

Ser Asp Val Lys Glu Leu Val Leu Asp Asn Ser Arg Ser Asn Glu Gly
 20 25 30

Lys Leu Glu Gly Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
 35 40 45

Thr Ile Asn Val Gly Leu Thr Ser Ile Ala Asn Leu Pro Lys Leu Asn
 50 55 60

Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Val Ser Gly Gly Leu
 65 70 75 80

Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Thr His Leu Asn Leu Ser
 85 90 95

Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
 100 105 110

Glu Asn Leu Lys Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu
 115 120 125

Asn Asp Tyr Arg Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr
 130 135 140

Leu Asp Gly Cys Asp Arg Asp Asp Lys Glu Ala Pro Asp Ser Asp Ala
 145 150 155 160

Glu Gly Tyr Val Glu Gly Leu Asp Asp Glu Glu Glu Asp Glu Asp Glu

165

170

175

Glu Glu Tyr Asp Glu Asp Ala Gln Val Val Glu Asp Glu Glu Asp Glu
180 185 190

Asp Glu Glu Glu Glu Gly Glu Glu Glu Asp Val Ser Gly Glu Glu Glu
195 200 205

Glu Asp Glu Glu Gly Tyr Asn Asp Gly Glu Val Asp Asp Glu Glu Asp
210 215 220

Glu Glu Glu Leu Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys Glu Asn
225 230 235 240

Leu Lys Met Arg Glu Lys Met Met Thr
245

<210> 35

<211> 26

<212> DNA

<213> Homo sapiens

<400> 35

tatgctagcg gggtcgggggt ttattg

26

<210> 36

<211> 29

<212> DNA

<213> Homo sapiens

<400> 36

gattctagat ggtaagtttg cgattgagg

29

<210> 37

<211> 29

<212> DNA

<213> Homo sapiens

<400> 37

gaatctagaa ggaggaggaa ggtgaagag

29

<210> 38

<211> 29

<212> DNA

<213> Homo sapiens

<400> 38
ctatctagat tcagggggca ggattagag

29

<210> 39
<211> 24
<212> DNA
<213> Homo sapiens

<400> 39
gaggtttatt gattgaattc ggct

24

<210> 40
<211> 24
<212> DNA
<213> Homo sapiens

<400> 40
ccccagtaca cttttcccgt ctca

24

<210> 41
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recognition
sequence

<400> 41
tttttctttt tc

12

<210> 42
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recognition
sequence

<400> 42
ttaaaattca

10

<210> 43
<211> 10

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recognition
sequence

<400> 43
atgtaaaaca

10

<210> 44
<211> 11
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recognition
sequence

<400> 44
aagataaaac c

11

<210> 45
<211> 10
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recognition
sequence

<400> 45
ccactgggga

10

<210> 46
<211> 13
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recognition
sequence

<400> 46
ctctctctct ctc

13

<210> 47
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: recognition
sequence

<400> 47
aaaacataaa t

11

<210> 48
<211> 131
<212> PRT
<213> Homo sapiens

<220>
<223> Description of Artificial Sequence: recognition
sequence

<400> 48
Met Glu Met Gly Lys Trp Ile His Leu Glu Leu Arg Asn Arg Thr Pro
1 5 10 15
Ser Asp Val Lys Glu Leu Phe Leu Asp Asn Ser Gln Ser Asn Glu Gly
20 25 30
Lys Leu Glu Gly Leu Ala Asp Glu Phe Glu Glu Leu Glu Leu Leu Asn
35 40 45
Thr Ile Asn Ile Gly Leu Ser Ser Ile Ala Asn Leu Ala Lys Leu Asn
50 55 60
Lys Leu Lys Lys Leu Glu Leu Ser Ser Asn Arg Ala Ser Val Gly Leu
65 70 75 80
Glu Val Leu Ala Glu Lys Cys Pro Asn Leu Ile His Leu Asn Leu Ser
85 90 95
Gly Asn Lys Ile Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Lys Leu
100 105 110
Glu Asn Leu Glu Ser Leu Asp Leu Phe Thr Cys Glu Val Thr Asn Leu
115 120 125
Asn Asn Tyr
130

<210> 49
<211> 234
<212> PRT
<213> Homo sapiens

<220>

<223> Description of Artificial Sequence: recognition
sequence

<400> 49

Met Glu Met Gly Arg Arg Ile His Ser Glu Leu Arg Asn Arg Ala Pro
1 5 10 15
Ser Asp Val Lys Glu Leu Ala Leu Asp Asn Ser Arg Ser Asn Glu Gly
20 25 30
Lys Leu Glu Ala Leu Thr Asp Glu Phe Glu Glu Leu Glu Phe Leu Ser
35 40 45
Lys Ile Asn Gly Gly Leu Thr Ser Ile Ser Asp Leu Pro Lys Leu Lys
50 55 60
Leu Arg Lys Leu Glu Leu Arg Val Ser Gly Gly Leu Glu Val Leu Ala
65 70 75 80
Glu Lys Cys Pro Asn Leu Thr His Leu Tyr Leu Ser Gly Asn Lys Ile
85 90 95
Lys Asp Leu Ser Thr Ile Glu Pro Leu Lys Gln Leu Glu Asn Leu Lys
100 105 110
Ser Leu Asp Leu Phe Asn Cys Glu Val Thr Asn Leu Asn Asp Tyr Gly
115 120 125
Glu Asn Val Phe Lys Leu Leu Leu Gln Leu Thr Tyr Leu Asp Ser Cys
130 135 140
Tyr Trp Asp His Lys Glu Ala Pro Tyr Ser Asp Ile Glu Asp His Val
145 150 155 160
Glu Gly Leu Asp Asp Glu Glu Glu Gly Glu His Glu Glu Glu Tyr Asp
165 170 175
Glu Asp Ala Gln Val Val Glu Asp Glu Glu Gly Glu Glu Glu Glu Glu
180 185 190
Glu Gly Glu Glu Glu Asp Val Ser Gly Gly Asp Glu Glu Asp Glu Glu
195 200 205

Gly Tyr Asn Asp Gly Glu Val Asp Gly Glu Glu Asp Glu Glu Glu Leu
210 215 220

Gly Glu Glu Glu Arg Gly Gln Lys Arg Lys
225 230

<210> 50
<211> 17
<212> DNA
<213> Homo sapiens

<400> 50
gggttcgggg ttattg

17

And
76
✓
<210> 51
<211> 20
<212> DNA
<213> Homo sapiens

<400> 51
ctctaattcct gccccctgaa

20